

ALEXANDRE CARMINOT

Engineering Student - Machine Learning & Medical Engineering

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EDUCATION

Master - Medical Engineering 09/2019 - Present
EPF Engineering School Paris Expected Graduation in 2025

- Engineering curriculum with a healthcare specialization: integrating core engineering principles, mathematics, programming, and machine learning with medical technology, device design, and healthcare informatics.

Computer Science - Exchange Program 09/2024 - Present
Tianjin University

- Focus on Algorithmic programming, machine learning , computer vision, and applied data science

Intelligent Medical Engineering - Exchange Program 09/2023 - 01/2024
Tianjin University

- Specialized in Precision medicine, neurosciences, brain-computer interfaces (BCI), medical imaging basics, and fundamentals of medical engineering.

SPECIALIZATION COURSES

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|---------------------------------------|---|
| Deep Learning and Advanced TensorFlow | Advanced Machine Learning on Google Cloud |
| DeepLearning.AI | Google |
| Advanced Medical Neuroscience | Machine Learning Specialization |
| Duke University | Stanford University & DeepLearning.AI |

PROJECTS

BCI application - In Progress
Developing a BCI simulator to interpret various EEG and MEG signals to enable real-time virtual control based on user thought patterns.

- Using datasets for muscle movement, arithmetic, and thought recognition to classify user thought-based actions in real-time control applications.
- Goal: Extract the "thoughts" and actions of subjects and link them to various controls.

BCI Workshop - Tianjin University
Hand Movement Recognition (MATLAB)

- Developed and deployed a real-time hand gesture recognition system using flexion sensors and AI, classifying six unique static and dynamic patterns using pattern recognition algorithms. Demonstrated successful identification with 98% accuracy.

Disease Prediction Algorithm - Python
Self-developed an AI model to determine a disease based on a provided symptoms list. Currently predicts 41 common diseases using 131 distinct symptoms.

- Developed custom implementations of activation functions, loss calculations, and weight optimization using NumPy achieving 96% accuracy.
- Benchmarked model performance against an ensemble Model to ensure robustness and model reliability.

EXPERIENCE

AI Model Review Specialist 01/2024 - Present
Outlier.AI | Remote | Current

- Reviews and flags critical errors in logic and generated code in large language model outputs, enhancing model precision and alignment with user expectations.

Private Tutor and Esports Coach 06/2022 - 09/2023

- Led personalized tutoring sessions in Math and Physics for 10 students, strengthening foundational skills and boosting student confidence in subject mastery.
- Customized tutoring and coaching strategies to suit individual skill levels, resulting in improved student performance

Internship 06/2022 - 9/2022
Zen2050Maintenant Paris

- Developed and implemented interactive exhibition stands for Zen2050's annual event, creating eco-conscious games, climate-themed art, and educational activities that engaged visitors in sustainability initiatives.

ABOUT ME

As a student of engineering and medicine, my journey is deeply rooted in the intersection of these fields. Focusing on machine learning and medical engineering, I am driven by a passion for exploring the brain, neuroscience, and artificial intelligence. This passion has led me into the realms of brain-computer interfaces and neuro-engineering, where I apply my skills through various projects using Python, MATLAB, and C++ to explore the brain, the body, and the world.

FIND ME ONLINE

-  [Alexandre CARMINOT \[link\]](#)
-  [My Portfolio \[link\]](#)
-  [Alexandre CARMINOT \[link\]](#)

SKILLS

Programming
Python - C++ - Java - Docker - Git
MATLAB - HTML, CSS & JavaScript

Libraries
TensorFlow - Keras - MNE - Scikit
PyTorch - Seaborn - SciPy

Technical Skills
Machine Learning - Neurosciences
Deep Learning - CNN - NLP - RNN
Computer-Vision

Engineering Skills
Problem Solving - Innovation - Analysis
Critical thinking - Device design

LANGUAGES

French Native, Voltaire Certification
English Expert, TOEIC (980/990)
Spanish Intermediate, B1
Chinese Elementrary, HSK3

PASSIONS & HOBBIES

- Martial Arts: Taekwondo (Red Belt), Judo (Brown Belt)
- Team sports: Rugby & Soccer
- Music: Piano (Playing for seven years)
- Science: Astronomy, Cosmology, Archaeology